

## Vascular Plants of Williamson County

*Rumex altissimus* – TALL DOCK, PALE DOCK [Polygonaceae]

*Rumex altissimus* Alph. Wood, TALL DOCK, PALE DOCK. Perennial herb, thick-taprooted with caudex, not rosetted, 1-stemmed at base, later with ascending lateral shoots developing from canopy downward from successive axillary buds, erect to steeply ascending, in range to 80 cm tall; polygamomonoecious; shoots with one basal leaf and widely spaced cauline leaves, glabrous. **Stems:**  $\pm$  angled, to 10 mm diameter, with several veins descending from each leaf, light green with darker or reddish stripes (principal veins), glabrous. **Leaves:** helically alternate, simple and never lobed, petiolate, with stipules; stipules (2) fused into cylinder sheathing stem (ocrea), to 24 mm long, membranous with fine green veins splitting near base aging papery and tannish; petiole  $\pm$  half-cylindric, to 100 mm long decreasing upward to short below inflorescence, having short-raised edges and a prominent midvein; blade oblanceolate, in range 100–260  $\times$  30–70 mm, tapered to narrowly tapered at base, entire (wavy), acute at tip, pinnately veined with 3-veined midrib somewhat raised on upper surface and conspicuously raised on lower surface, both surfaces with stomates. **Inflorescence:** panicle of branches having unisexual and bisexual flowers, terminal, to 200 mm long, lateral branch interrupted with a condensed cyme (fascicle) at every node, flowers 10–20 per node mixed staminate, pistillate, and bisexual flowers, principal axis with leaflike bract subtending the lower 3 nodes but upper nodes lacking bract, glabrous; principal axis  $\pm$  13-ridged at base, internodes decreasing upward; bracts leaflike sessile and gradually decreasing upward, each node with a swollen ring having a papery ocrea to 3 mm long; lateral branch ascending, to 120 mm long decreasing upward, having a cyme arising partially concealed by ocrea at base, the lowest visible internode to 25 mm long decreasing upward, with a ocrea  $<$  2 mm long surrounding node subtending each cyme on 1 side of node; bractlet absent with pedicel; pedicel flexible, light green, exerted with flower bud from ocrea, with swelling at abscission zone 1/3 from base, of pistillate flower bud 3-angled,  $<$  2 mm long, on pedicel to 2  $\times$  1 mm at anthesis, of staminate flower bud 3-angled wedge-shaped, ca. 2.5  $\times$  1.6 mm, on pedicel  $<$  3 mm long, of bisexual flower bud ellipsoid, ca. 3.2  $\times$  2 mm, on pedicel  $<$  4.5 mm long. **Staminate flower:** radial, ca. 1.5 mm across, oriented sideways; **perianth** of 6 lobes fused at thickened base of flower, persistent in fruit; **sepals** (outer tepals) 3, ascending, ovate (flattened) and boat-shaped low-keeled, to 2 mm long, 1-veined, green with narrow membranous margins (incl. obtuse tip); **petals** (inner tepals) 3, ascending, cupped-elliptic, ca. 2 mm long, green with colorless margins, entire, veiny at anthesis with midvein raised on outer (lower) surface and lacking tubercle; **stamens** 6, fused in short ring at base; filaments to 0.5 mm long, colorless; anthers basifixed, dithecal,  $\pm$  1.8 mm long, pale yellow, longitudinally dehiscent; pollen colorless; **pistil** vestigial. **Pistillate flower:** radial, 1.2–1.5 mm across, oriented sideways or drooping; **perianth** of 6 lobes fused at thickened base of flower, persistent in fruit; **sepals** (outer tepals) 3, widely spreading, tongue-like (flattened) and boat-shaped scarcely keeled,  $\pm$  1  $\times$  0.8–0.9 mm, 1-veined, green with narrow membranous margins (incl. obtuse tip), vein slightly raised on lower surface and not reaching tip; **petals** (inner tepals) 3, suberect to erect, trowel-shaped with membranes reflexed backwards aging triangular, ca. 1.5  $\times$  0.75 mm, green with colorless margins, entire, veiny at anthesis with midvein raised on outer (lower) surface and lacking additional tubercle (swelling); **stamens** 3, sterile, fused to base of sepals;

filaments < 0.5 mm long, colorless; anthers abortive; **pistil** 1; ovary superior, strongly 3-angled with 3 concave faces,  $\pm 0.7 \times 0.4\text{--}0.5$  mm, glossy cloudy translucent, 1-chambered with 1 ovule; styles 3, extending from ovary angles, widely spreading between petals, ca. 1 mm long, colorless, with conspicuous feathery stigma from each midpoint. **Bisexual flower:** radial, 2+ mm across, oriented sideways; **perianth** of 6 lobes fused at thickened base of flower, persistent in fruit; **sepals** (outer tepals) 3, ascending, ovate (flattened) and boat-shaped low-keeled, ca.  $2.5 \times 1$  mm, 1-veined, green with narrow membranous margins (incl. obtuse tip); **petals** (inner tepals) 3, ascending,  $\pm$  flat-elliptic,  $3.2\text{--}3.5 \times 1.5$  mm, green with colorless margins, entire, veiny at anthesis with midvein raised on outer (lower) surface and lacking tubercle; **stamens** 6, fused in crownlike ring at base 0.5 mm long; filaments unequal, 0.6–1.5 mm long, colorless; anthers basifixed, dithecal,  $\pm 1.8$  mm long, pale yellow, longitudinally dehiscent; pollen colorless; **pistil** 1; ovary superior, 3-angled with 3 flattish faces,  $\pm 1.6 \times 0.9$  mm, white, 1-chambered with 1 ovule; styles 3, extending from ovary angles, reflexed not exerted, ca. 1 mm long, colorless, with a minute feathery stigma at each tip. **Fruit:** achene, dispersed with and concealed by dried perianth with attached pedicel; achene strongly 3-angled (trigonous) ovate in outline and sharply pointed at top, in range ca.  $2.5 \times 1.3$  mm, dull brown; perianth papery, petals 3, together appearing pyramidal, each conspicuously veiny and subcordate-triangular to subtruncate-ovate, mostly  $4.5\text{--} \times \text{--}$  mm, golden brown to light brown, entire to subentire and somewhat wavy on margins, margins of adjacent petals touching and appressed, obtuse at tip, vein network raised on outer (lower) surface, in range only 1 petal per set having a tubercle = a raised growth from base to midpoint along the midvein, the tubercle lanceoloid, to  $3 \times 0.8 \times 1$  mm, golden brown or paler (not white or whitish), coarsely pitted; sepals widely spreading and cupping paired basal margins of petals, ca. 2 mm long, thin-papery, pale brown, not veiny; pedicel mm long, jointed (abscission zone) ca. 1/3 from base.

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